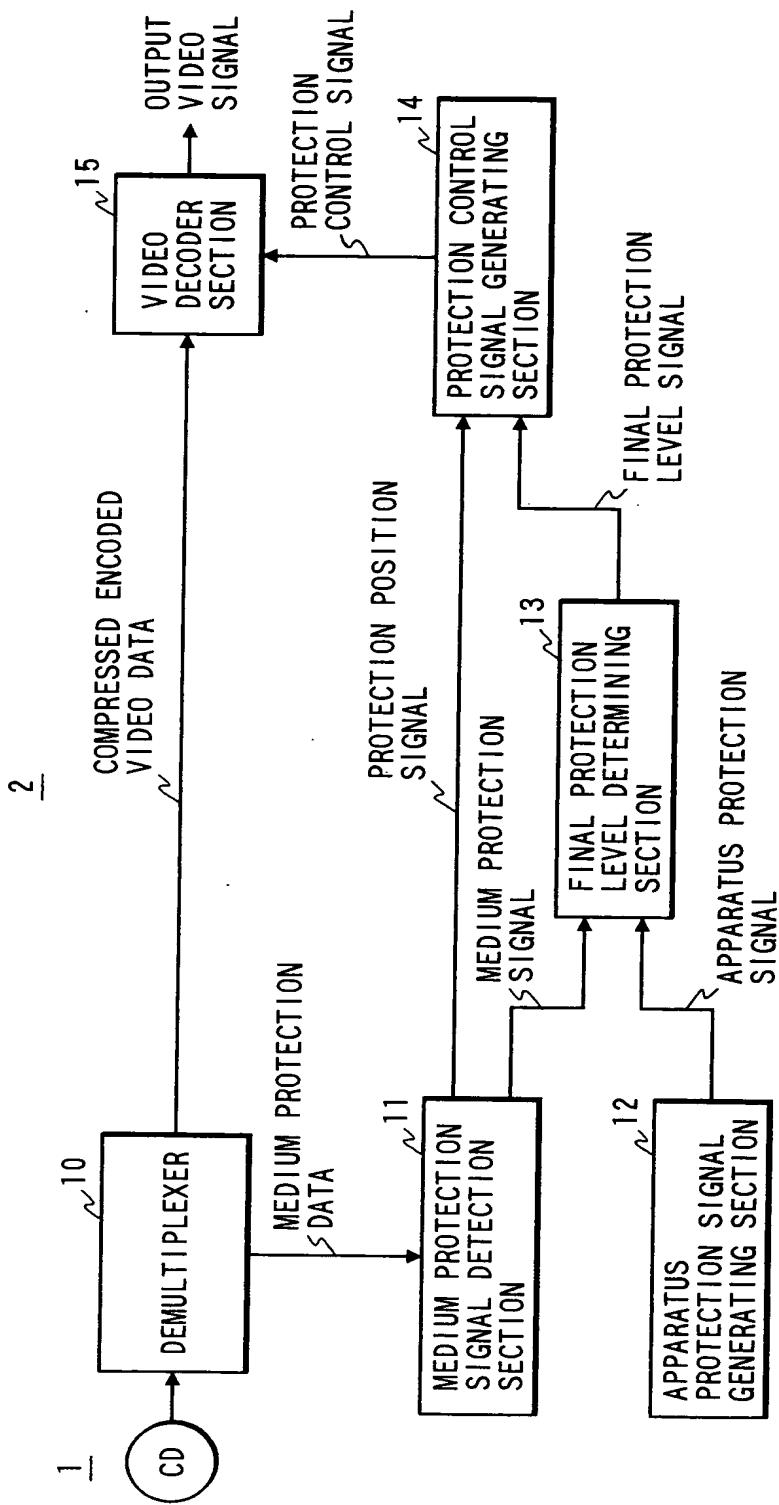




1/16

FIG. 1





U.S. Application No. 09/469,499
By: Takayuki SUGAHARA
Filed: December 22, 2006
Title: APPARATUS FOR
PROTECTION OF DATA ...
REPLACEMENT SHEET

2/16

FIG. 2

REPRODUCTION APPARATUS
PROTECTION LEVEL

→ STRONG

MEDIUM PROTECTION
LEVEL ↓

STRONG

	1	2	3	4
1	A	A	A	A
2	A	A	A	B
3	A	A	B	C
4	A	<u>B</u>	C	D
5	E	E	E	E



U.S. Application No. 09/469,499
By: Takayuki SUGAHARA
Filed: December 22, 2006
Title: APPARATUS FOR
PROTECTION OF DATA ...
REPLACEMENT SHEET

3/16

FIG. 3

MEDIUM PROTECTION LEVEL

EXAMPLES OF MEDIUM PROTECTION	1	2	3	4	5	OTHER
BASED ON U.S. MOVIE RATINGS	FREE	PG	R	X		
BASED ON COPYRIGHT PROTECTION	FREE	RESTRICTED (WEAK)	RESTRICTED (MODERATE)	RESTRICTED (STRONG)		OTHER

JAN 20 2006

FIG. 4

APPARATUS PROTECTION LEVEL

EXAMPLES OF PLAYBACK APPARATUS PROTECTION	1	2	3	4
BASED ON COUNTRY	U. S. A.	EUROPE	JAPAN	TAIWAN
BASED ON ADULT/CHILD STATUS	FOR ADULTS	FOR ADULTS	FOR ADULTS	FOR CHILDREN
BASED ON OBJECTIVES	FOR ITEMS TO BE SOLD	FOR ITEMS TO BE SOLD	FOR IN-STORE SALES DEMONSTRATION ITEMS	FOR IN-STORE SALES DEMONSTRATION ITEMS



6/16

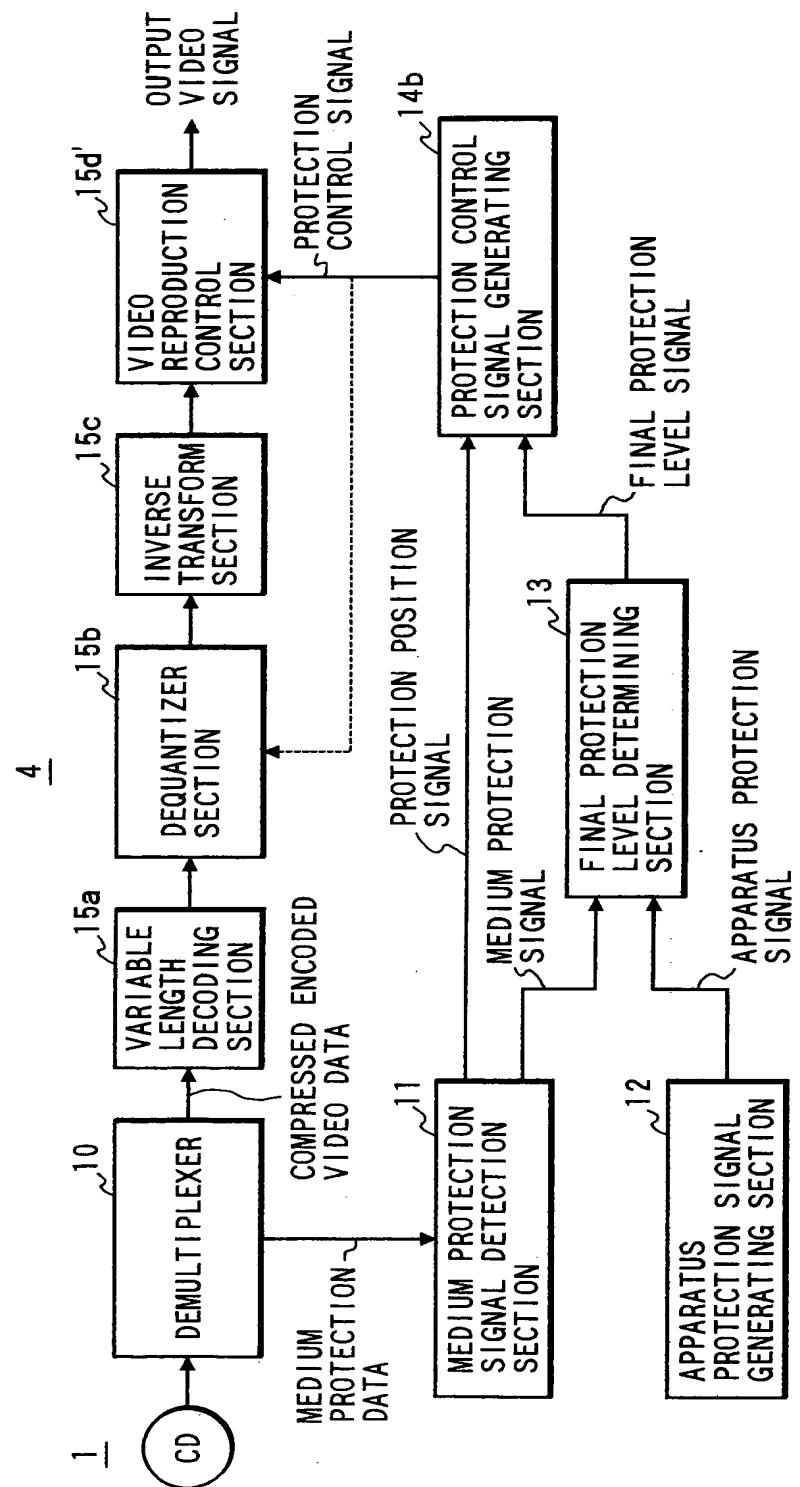
FIG. 6

EXAMPLE OF VISIBILITY GRADES, USING SPATIAL-DOMAIN PROTECTION CONTROL		EXAMPLE OF VISIBILITY GRADES, USING TIME-AXIS PROTECTION BASED ON VIDEO DATA BIT-NUMBER CONTROL	
A	ALL PICTURE IS VISIBLE	ALL PICTURE IS VISIBLE	ALL PICTURE IS VISIBLE
B	8×8 TRANSFORM BLOCK SIZE, DC COEFFICIENT AND 2 AC COEFFICIENTS	1 IN 15 FRAMES USED	4 BITS/SAMPLE
C	8×8 TRANSFORM BLOCK SIZE, ONLY DC COEFFICIENT	1 IN 60 FRAMES USED	2 BITS/SAMPLE
D	16×16 TRANSFORM BLOCK SIZE, ONLY DC COEFFICIENT	SPECIFIED FRAME(S) ONLY USED	1 BIT/SAMPLE
E	OTHER PICTURE DISPLAYED	OTHER PICTURE DISPLAYED	OTHER PICTURE DISPLAYED

FINAL PROTECTION LEVEL →



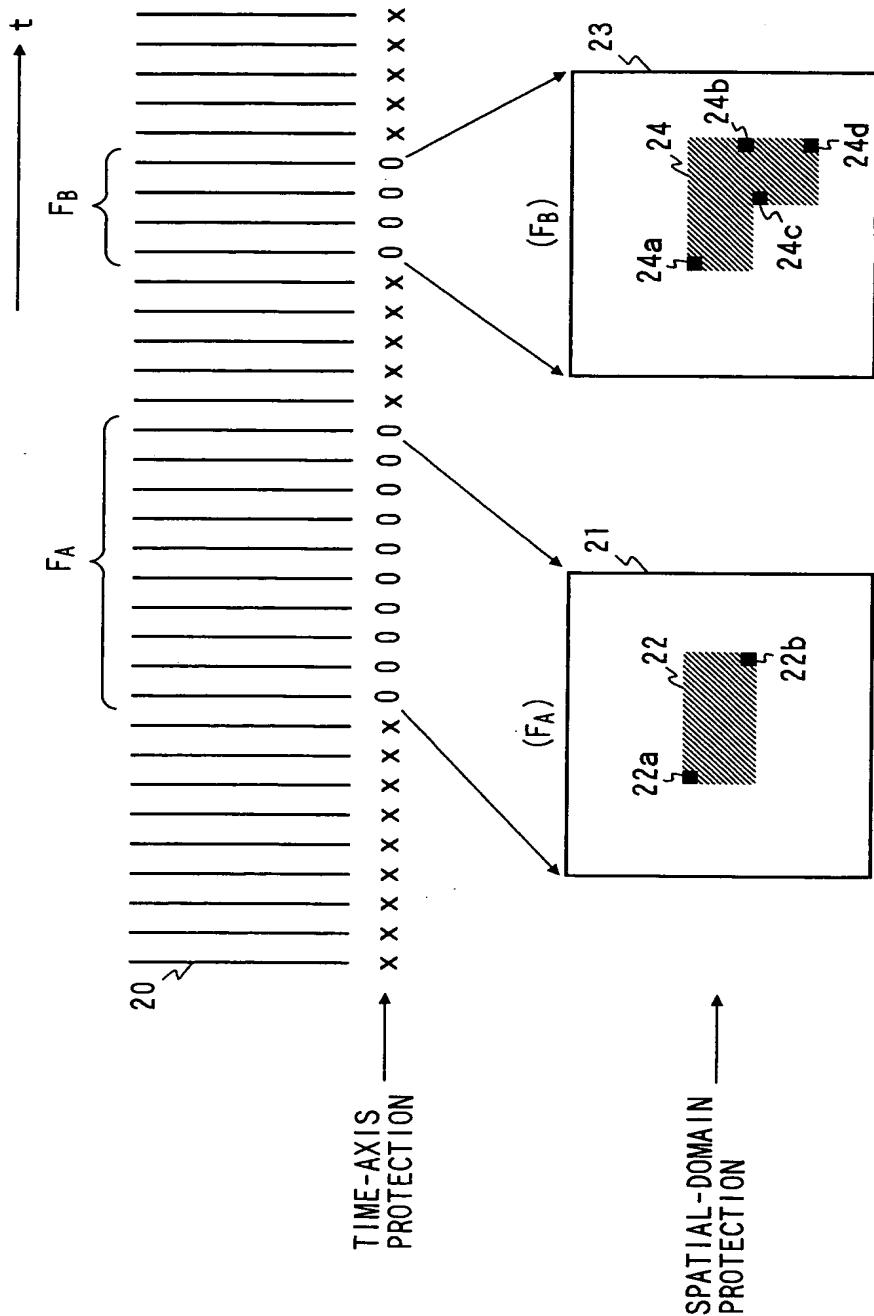
FIG. 7





8/16

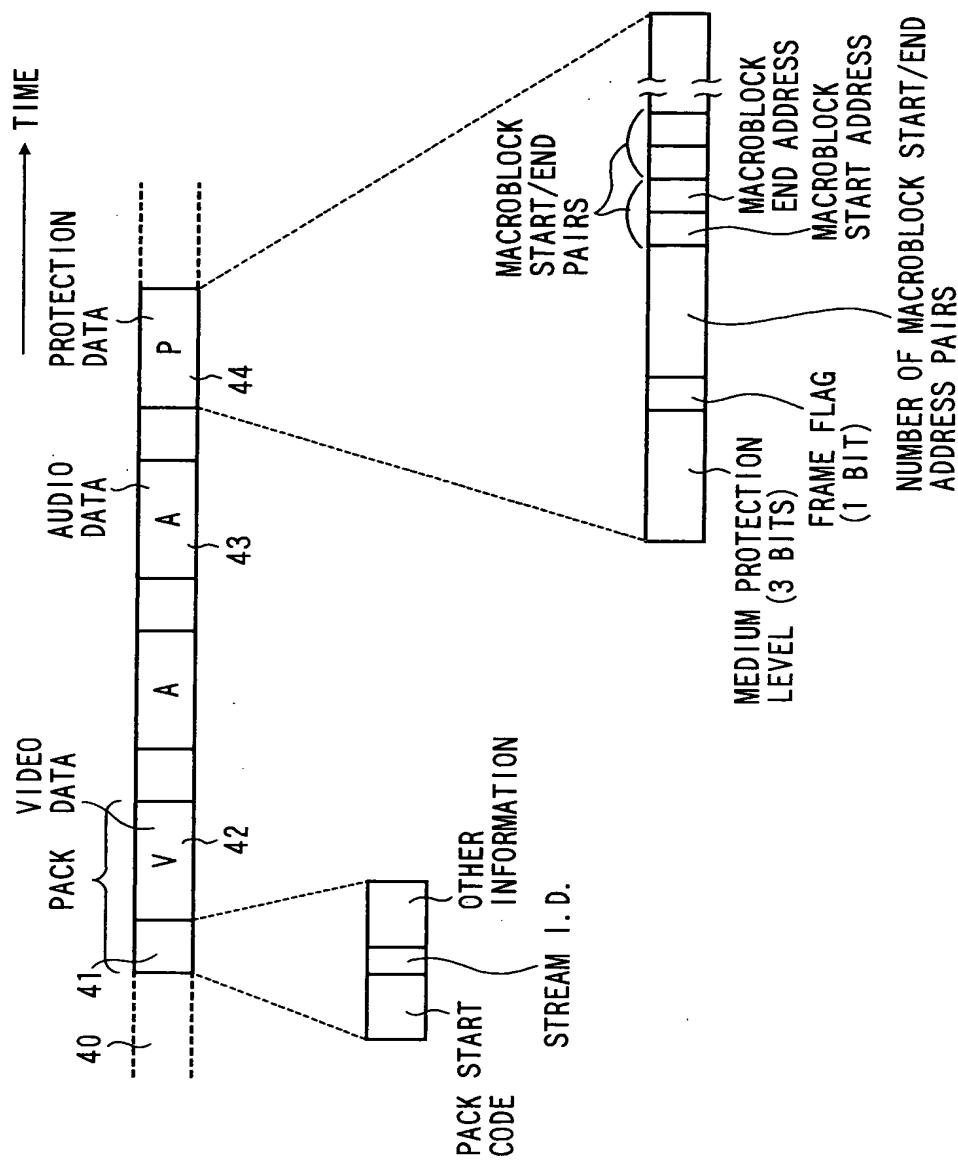
FIG. 8





9/16

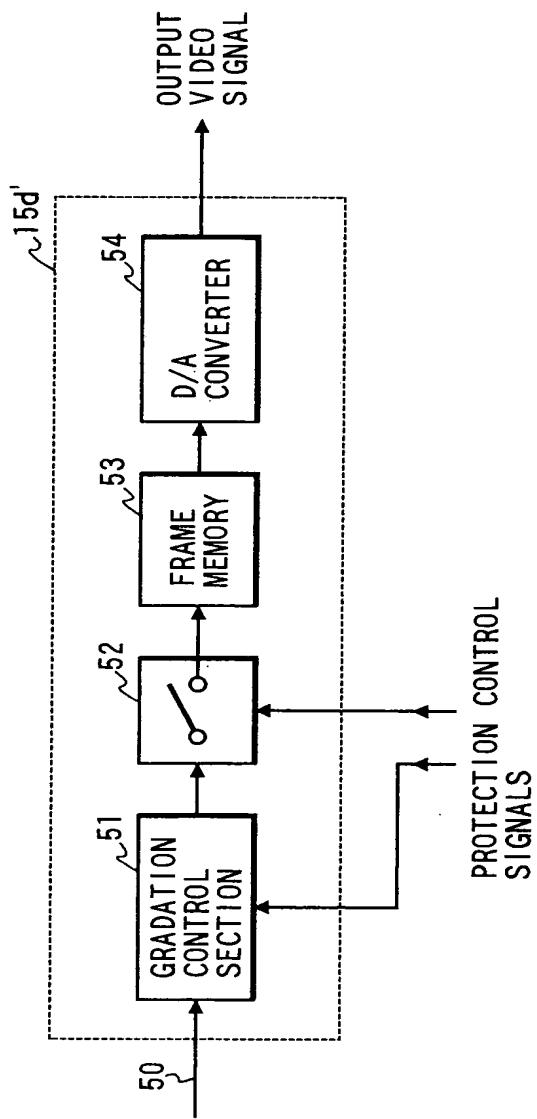
FIG. 9





10/16

FIG. 10





12/16

FIG. 12

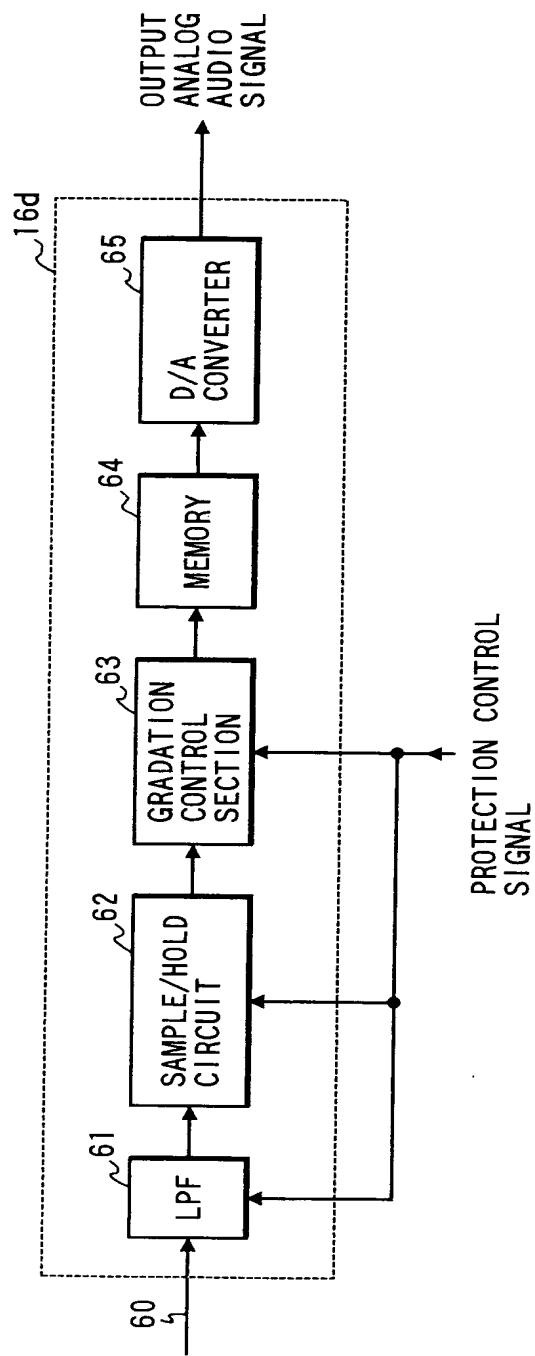
EXAMPLE OF AUDIBILITY GRADES, USING BANDWIDTH-RESTRICTION PROTECTION CONTROL		EXAMPLE OF AUDIBILITY GRADES, USING TIME-AXIS PROTECTION BASED ON AUDIO DATA BIT-NUMBER CONTROL	
A	ALL OF ORIGINAL AUDIO SIGNAL REPRODUCED	ALL OF ORIGINAL AUDIO SIGNAL REPRODUCED	ALL OF ORIGINAL AUDIO SIGNAL REPRODUCED
B	18 kHz	1 IN EVERY 2 SAMPLES IS USED	12 BITS/SAMPLE
C	12 kHz	1 IN EVERY 3 SAMPLES IS USED	8 BITS/SAMPLE
D	6 kHz	ONLY SPECIFIED SAMPLES ARE USED	4 BITS/SAMPLE
E	NO AUDIO OUTPUT SIGNAL	NO AUDIO OUTPUT SIGNAL	NO AUDIO OUTPUT SIGNAL

FINAL PROTECTION LEVEL →



13/16

FIG. 13





14/16

FIG. 14

REPRODUCTION APPARATUS
PROTECTION LEVEL

→ STRONG

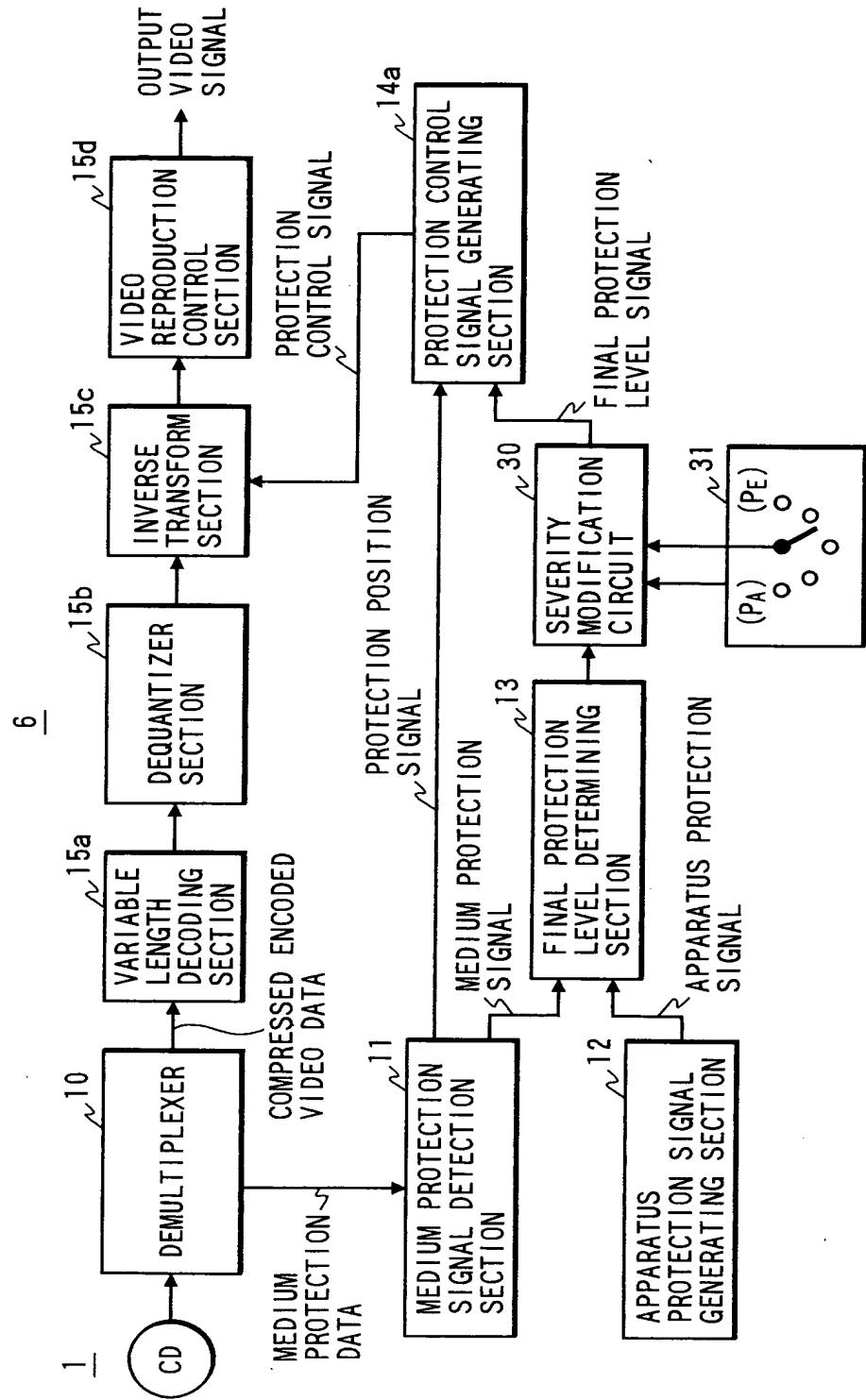
MEDIUM PROTECTION LEVEL
→ STRONG

	1	2	3	4
1	A~E	A~E	A~E	A~E
2	A~E	A~E	A~E	B~E
3	A~E	A~E	B~E	C~E
4	A~E	<u>B~E</u>	C~E	D~E
5	E~E	E~E	E~E	E~E



15/16

FIG. 15





16/16

FIG. 16

(WHEN APPARATUS
 PROTECTION LEVEL=1)

	MODIFICATION SWITCH CONDITION				
	PA	PB	Pc	Pd	Pe
1	A	B	C	D	E
2	A	B	C	D	E
3	A	B	C	D	E
4	A	B	C	D	E
5	E	E	E	E	E

MEDIUM PROTECTION LEVEL → STRONG

(A)

(WHEN APPARATUS
 PROTECTION LEVEL=2)

	MODIFICATION SWITCH CONDITION				
	PA	PB	Pc	Pd	Pe
1	A	B	C	D	E
2	A	B	C	D	E
3	A	B	C	D	E
4	B	B	C	D	E
5	E	E	E	E	E

MEDIUM PROTECTION LEVEL → STRONG

(B)

(WHEN APPARATUS
 PROTECTION LEVEL=3)

	MODIFICATION SWITCH CONDITION				
	PA	PB	Pc	Pd	Pe
1	A	B	C	D	E
2	A	B	C	D	E
3	B	B	C	D	E
4	C	C	C	D	E
5	E	E	E	E	E

MEDIUM PROTECTION LEVEL → STRONG

(C)

(WHEN APPARATUS
 PROTECTION LEVEL=4)

	MODIFICATION SWITCH CONDITION				
	PA	PB	Pc	Pd	Pe
1	A	B	C	D	E
2	B	B	C	D	E
3	C	C	C	D	E
4	D	D	D	D	E
5	E	E	E	E	E

MEDIUM PROTECTION LEVEL → STRONG

(D)